

Patent Claims

1. Optical coupling device for cross-coupling light from a first optical waveguide (20) into a second optical waveguide (30), it being possible to influence the relative position of the two optical waveguide end faces in relation to each other with the aid of a variable-length element (2, 26, 46, 66, 86) that holds the first optical waveguide (20) in a ferrule (6, 24, 44, 64, 84), and the variable-length element (2, 26, 46, 66, 86) being fixed to a unit containing the second optical waveguide (30) via a first holding element (4, 28, 48) and having a guide device (38, 40) which permits the element (2, 26, 46, 66, 86) to lengthen only in a spatial direction oriented substantially parallel to the longitudinal axis of the element.
2. Device according to Claim 1, characterized in that the ferrule (6, 24, 44, 64, 84) is inserted into a hole in the variable-length element (2, 26, 46, 66, 86).
3. Device according to one of the preceding claims, characterized in that the guide device has a second holding element (40, 58, 74) as an abutment, on which the variable-length element (26, 46, 66, 86) is guided parallel to the expansion direction of the variable-length element.
4. Device according to Claim 3, characterized in that the guide device has a ferrule (36) which is connected to the variable-length element (26) and which is mounted in a hole in the second holding element (40) such that it can be displaced in the direction of the axis of the variable-length

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element (26) in which the variation in length takes place.

- 5 5. Device according to Claim 4, characterized in that
the ferrule is guided in the second holding
element (40) via a sleeve (38).
- 10 6. Device according to Claim 3, characterized in that
the guide device has a ferrule which is connected
to the second holding element (40) and which is
mounted in a hole in the variable-length element
~~such that it can be displaced in the direction of~~
the axis of the variable-length element in which
the variation in length takes place.
- 15 7. Device according to Claim 6, characterized in that
the ferrule is guided in the variable-length
element via a sleeve.
- 20 8. Device according to Claim 3, characterized in that
the guide device is formed by a tongue and groove
connection between the variable-length element and
the second holding element (58).
- 25 9. Device according to Claim 3, characterized in that
the second holding block (74) has a U-shaped cross
section, and in that the variable-length element
(56) is guided in the U-shaped cross section of
the second holding element (74).
- 30 10. Device according to Claim 3, characterized in that
an abutment (92), which engages on the second
optical waveguide in a displaceable manner, is
fixed to the variable-length element (86).
- 35 11. Device according to Claim 8, characterized in that
the abutment has on one side a spring (96) between
one end of the abutment and the second optical
waveguide (90) and on the other side a setting

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screw (100) between another end of the abutment
and the second optical waveguide (90).
